amount of water carried forward day by day. The velocity was exceedingly well known; its annual mean and its monthly mean were also very well known. The stream took 25 days to reach Nantucket, 50 days to reach the Newfoundland Bank, and 200 days to reach the western coast of Europe. From its known sectional area between Florida and Cuba, he contended it was impossible such a stream could spread over the whole of western Europe up to Iceland, as far as the northern coast of Norway and Spitzbergen, and to other places where there was a comparatively mild climate. He repeated, such a body of water passing from the Gulf could not produce those effects on the climate of the whole of western Europe without being aided by some other causes. Then there was the fact that the warmest point of the Gulf Stream was on its western edge: the warmest water being pressed upon the American coast, along which the polar current was running south. He wanted to know why that was? why the warmth should not be diffused more to the eastward? It was only a suggestion of Mr. Leighton Jordan that the axial rotation of the Earth might account for the phenomenon in some degree. But, apart from that, he would contend that that small body of water would never cover the whole of the west coast of Europe; it was the great winds which blew from the south-west in that part of the Atlantic that produced a drift towards the coasts of Europe. Moreover, there was the drift of water round the Bahama Bank, which joined the Gulf Stream; the Gulf Stream, in fact, could form only a fractional portion of the circulation.

The CHAIRMAN, in closing the discussion, said the great point was to bring men of science and practice together, for truth was elicited by the efforts of the two. He was much indebted to Professor Huxley for giving him the chance of still indulging in those ideas that he had always entertained with regard to the effect of the Gulf Stream upon our climate. He must say he did not think that Mr. Findlay had absolutely dissipated that belief.

The following paper, announced for reading, was taken as read:—

3.—*Journey to the Confluence of the Mantaro and Apurimac.* By ANTONIO RAIMONDI, Hon. Corresponding Member of the Royal Geographical Society.

This will be printed entire in the 'Journal,' vol. xxxviii.

Seventh Meeting, 22nd February, 1869.

MAJOR-GENERAL SIR ANDREW SCOTT WAUGH, R.E., F.R.S., VICE-PRESIDENT, in the Chair.

PRESENTATIONS.—*Charles H. Stanton, Esq.; Lieut. Henry Trotter*, R.E.

ACCESSIONS TO THE LIBRARY from 8TH to 22ND FEBRUARY, 1869:—'A Visit to the Southern Galas (East Africa).' By T. Wakefield. 1866. Donor, the author. 'Emigration to Venezuelan Guyana.' By L. Clark. 1868. Donor, the author. 'A History of the Abyssinian Expedition.' By Clements R. Markham. 1869. Purchased. 'Anales de la Universidad de Chile.' 'Historia jeneral de la Republica de Chile. 'Bibliografia de la Literatura Chilena.' 'El Terreno

Carbonifero de Coronel.' Por Don P. del Barrio. 'Poesia Chilena.' Escrito por A. Valderrama. All presented by the University of Chile. 'A Political Survey, 1868.' By M. E. Grant-Duff, M.P. Donor, the author. 'Meerut and Umballa Railway, opened 1869.' Donor, the Secretary of State for India.

ACCESSIONS TO THE MAP-ROOM SINCE THE LAST MEETING OF FEBRUARY 8TH, 1869.—Photographic Views of Mount Sinai and the Vicinity, nine in number. Presented by the Rev. F. W. Holland. Map of the Province of Buenos Aires. By S. Salis, &c. Presented by Mr. F. Torromé. Plan of the City of Buenos Aires. By S. Salis, &c. Presented by Mr. F. Torromé. Ordnance Maps, 415 sheets, on various scales.

Previous to the reading of the papers, the CHAIRMAN stated that the Council in their meeting that day had passed the following minute, expressive of sympathy with the President in his recent domestic bereavement:—

Extract from the Minutes of the Council of the ROYAL GEOGRAPHICAL SOCIETY, *22nd February*, 1869.

"The Council of the Royal Geographical Society desire to offer to their President the expression of their sincere sympathy with him on the occasion of the lamented decease of Lady Murchison. They recognize the deep and active interest taken by Lady Murchison in science generally, and more especially in the proceedings of the Royal Geographical Society; and in thus tendering their sincere condolence to Sir Roderick Murchison, they are fully sensible of the irreparable loss sustained by him in this bereavement.

"ANDREW SCOTT WAUGH, Major-General R.E.,

"*Chairman of the Meeting of Council.*"

The CHAIRMAN further informed the meeting that a reply had been received from Sir Roderick Murchison to the following effect:—

"MY DEAR SIR ANDREW, "22nd February, 1869.

"Accept my warmest thanks for yourself and my kind friends of the Council who have expressed their condolence for me in my heavy affliction. As I cannot attend the Council or the evening meeting, I beg of you to explain to both bodies why I am necessarily absent from my post.

"Yours sincerely,

"RODERICK I. MURCHISON."

The meeting having expressed unanimous concurrence in the sentiments of the Resolution,

The CHAIRMAN said the paper about to be read was one of especial interest, both in an astronomical and a geographical point of view; it was written by Staff-Commander Davis, who was a member of Sir James Ross's famous expedition towards the South Pole in the *Erebus* and *Terror*. The transits of Venus would be useful as affording facilities for determining the distance of the sun. He himself took particular interest in the subject, as the pursuit of his own profession had led him to be occupied for some years in measuring the figure of the earth. Although the transits in 1874 (Dec. 8) and 1882 (Dec. 6) would afford a rare opportunity for very valuable observations,

unfortunately the sun would be very far south, and therefore observers in the northern hemisphere would be excluded from favourably observing the transit. Astronomers, however, had devised several methods for taking the greatest advantage of the occasion. At the Astronomical Society a paper had been read by the Astronomer Royal, in which he had pointed out the positions from which the phenomena could be best observed. These stations being, for the most part, *in terris incognitis*, brought the subject within the legitimate domain of the Royal Geographical Society.

The following Paper was then read by the Author:—

On Antarctic Discovery, and its Connexion with the Transit of Venus in 1882. By Staff-Commander J. E. DAVIS, R.N., F.R.G.S.

[ABSTRACT.]

THE author prefaced his paper by stating that the Circumpolar Chart, exhibited by him in illustration of his subject, was compiled from many authorities, with a very considerable and important addition from the President of the Royal Society, in the curves of magnetic dip and declination, which were part of the results of many years of toil and study by General Sabine; it was not, however, his purpose to allude to them that evening, but he was sure they were not misplaced, as they were of the deepest interest to the physical geographer. The materials for the diagrams in connection with the transit of Venus had been kindly furnished him by the Astronomer Royal previous to reading his late paper before the Royal Astronomical Society.

The paper commenced with a sketch of the history of discovery in Antarctic regions, the author believing that the public were not so well acquainted with South Polar as with Arctic explorations. While the names of Northern discoverers were "familiar in our mouths as household words," but comparatively few had ever heard of those of the South; and even the renowned Cook was more remembered for his discoveries in the Pacific than for his bold push towards the South. Had it not been for the coming transit of Venus in 1882, the Antarctic might have remained neglected for another century. A brief account was given of the various discoveries from that of South Shetland by Dirk Gerritz in 1599 to the voyage of Captain James Clark Ross. Cook made no discoveries in the South, but his voyage was of this consequence—we knew that for any large tract of land we must look further south. The expedition of Bellingshausen was, in like manner, of not so much importance from its discoveries as from its non-discoveries. Weddell, an officer in the Royal Navy, who in 1823 reached the high latitude of 74° 15′, deserved the greatest credit for venturing so far south in such small vessels at so late a period of the season. Whatever might be the